Jurnal Onoma: Pendidikan, Bahasa dan Sastra, **Vol. 10, No. 3, 2024**

The Use of Jigsaw Technique to Improve Reading Comprehension of The Eighth Grade Students of SMP Negeri 12 Palu

Dinah Aprilia [1]
Darmawan [2]
Anjar Kusuma Dewi [3]
Nur Sehang Thamrin[4]
[1234] Universitas Tadulako, Palu, Indonesia

[1] dinaaprilliaa@gmail.com
[2] darmawan1981@gmail.com
[3] anjardewi.kusuma@gmail.com
[4]nursehangthamrin@yahoo.com

Abstract

This research was aimed to find out the use of Jigsaw Technique to Teach Reading Comprehension of the Eight-Grade students of SMP Negeri 12 Palu. A quasi-experimental design which consist of experimental and control classes was employed in this research. Students from class VIII A and VIII B comprised the sample of the research with total 51 students. During the data collection the researcher used an instrument including multiple choice and essay tests. Following to data analysis, it was found that the experimental class's mean score had increased from 57.78 to 77.78, while the mean score of the control class increased from 60.36 to 69.52. The hypothesis was accepted according to the researcher's findings because the t-counted was higher than the t-table (4.65>1.678). In conclusion, during the teaching and learning process, implementing jigsaw technique can effectively support students with their reading comprehension.

Keywords: *Improve; Jigsaw Technique; Reading Comprehension*

Introduction

Reading is an important language skill to learn and has a high level of complexity that everyone needs to learn. It is also supported by Yinger (1987) that reading becomes an important role in the individual and the most important activity for the students in the learning process. Reading can improve our ability to understand the concepts easily. The ability to read well, can provide opportunities for personal fulfillment.

According to the 2013 junior high school curriculum, students should comprehend social function, text structure, and linguistic features when reading texts such as descriptive, narrative, recount, procedure, and report, both orally and written form. Besides that the curriculum is also expected to develop literacy skills in students, Kusmana Suherli (2015) Stated the capacity to read and write is known as literacy, and it extends to skills in listening, speaking and critical thinking.

Teachers should used techniques and procedures that are appropriate for the conditions of the teaching and learning process. But reading is not as simple to learn as it seems. Reading can sometimes be a challenging language skill, particularly for students who still struggle to comprehend the text they are reading.

Based on preliminary observation at SMP Negeri 12 Palu, the researcher found some difficulties faced by students in learning reading. First, due to a limited vocabulary, they were unable to understand certain words when reading a book. Second is, the students

also get difficulty in identifying the main idea and to understanding the information in the text. Because of this, the students found it challenging to accurately answer the question using the information provided in the text.

Therefore, the researcher proposes a specific strategy in reading, which is jigsaw technique. Arato & Varga (2015) defines within the microgroup, Jigsaw is a framework where members of the group get content sources in segments, such as subject materials, textbooks, references, learning aids, and styles of learning. So, every group member is given a certain set of materials to study and subsequently impart to the other members of the group. By using this technique, students are given the chance to comprehend the reading very well, which means they are obligated to understand the passage of the text.

According to the explanation above, the researcher chooses Jigsaw strategy to improve students' understanding in reading. It is expected that by using Jigsaw, students can appropriately take information from the text. The researcher assumes that Jigsaw provides an opportunity for students to understand text more easily. In addition, By using this technique, students became more engaged and have easier access to discuss ideas with another students.

Method

The research design employed quasi-experimental. This research used two classes: the experimental class and the control class. There was a pre-test, a treatment, and a post-test for the experimental class. However, the control group also received the pre- and post-tests used a conventional teaching approach. Arikunto (2013) proposed the research design is as follows:

E	**O1**	**X**	**O2**
C	**O3**		**O4**

Where:
E: Experimental Class
C: Control Class
O1 O3: Pre-test
O2 O4: Post-test
X: Treatment

Students in grades eight at SMP Negeri 12 Palu was the population of this research, divided into classes A and B there were 27 students in class A and 24 students in class B. Then, the total population was 51 students as shown in the following table.

Table 1 Distribution of the class

No.	**Classes**	**Number of Students**
1	VIII A	27
2	VIII B	24
	Total	51 students

The sample is chosen using total sampling since eight-grade students are divided into two classes and utilized a quasi-experimental with two groups. It implies that the research sample is the entire population. This research variables are divided into independent and dependent variables. The implementation of the jigsaw technique was the independent variable, and the students reading comprehension was the dependent variable.

Vol. 10, No. 3, 2024
ISSN 2443-3667(print) 2715-4564 (online)

Results

The results of the investigation and the data analysis are presented by the researcher in these findings. At SMP Negeri 12 Palu, the researcher conducted the study from March 20 to April 25, 2024. In gathering the data, the researcher used tests as the instrument of the research and the outcome is presented as numerical data. To specify the deviation score, which represented the difference between the students pre test and post-test results as shown in the table:

Table 2. Deviation and Square Deviation of the Experimental Class

No	Initial	Score			
		Pre-Test	Post-Test	Deviation	Square Deviation
1	AD	57.14	88.57	31.43	987.84
2	AF	62.86	85.71	22.85	522.12
3	ADK	77.14	91.43	14.29	204.20
4	AHP	45.71	57.14	11.43	130.64
5	B	28.57	51.43	22.86	522.58
6	DP	51.43	85.71	34.28	1175.12
7	FG	37.14	51.43	14.29	204.20
8	FRA	34.29	51.43	17.14	293.78
9	HAR	57.14	94.29	37.15	1380.12
10	INI	51.43	77.14	25.71	661.00
11	I	57.14	80.00	22.86	522.58
12	JMY	62.86	88.57	25.71	661.00
13	MAP	57.14	77.14	20.00	400.00
14	MGS	77.14	82.86	5.72	32.72
15	MFR	51.43	77.14	25.71	661.00
16	MDL	54.29	80.00	25.71	661.00
17	NAP	57.14	80.00	22.86	522.58
18	NZA	48.57	77.14	28.57	816.24
19	PPS	77.14	85.71	8.57	73.44
20	RS	51.43	77.14	25.71	661.00
21	REB	77.14	88.57	11.43	130.64
22	RZ	60.00	82.86	22.86	522.58
23	R	62.86	85.71	22.85	522.12
24	RV	37.14	51.43	14.29	204.20
25	RF	77.14	88.57	11.43	130.64
26	SS	77.14	80.00	2.86	8.18
27	MAI	71.43	82.86	11.43	130.64
		Total		540.00	12742.16

According to the above table, the pre-test highest score in experimental class was 77.14 and the lowest score was 28.57. The post-test highest score was 94.29, and the lowest score was 51.43. After treatment, it indicates that there was an improvement.

Deviation and Square Deviation of the Control Class Score

No	Initial	Pre-Test	Post-Test	Deviation	Square Deviation
1	AA	62.86	74.29	11.43	130.64
2	APP	65.71	77.14	11.43	130.64
3	AM	77.14	82.86	5.72	32.72
4	AZ	54.29	62.86	8.57	73.44
5	AR	60.00	71.43	11.43	130.64
6	BS	77.14	71.43	-5.71	32.60
7	FA	62.86	48.57	-14.29	204.20
8	FR	68.57	77.14	8.57	73.44
9	FY	77.14	80.00	2.86	8.18
10	FZ	57.14	77.14	20.00	400.00
11	J	51.43	62.86	11.43	130.64
12	M	77.14	74.29	-2.85	8.12
13	MR	54.29	74.29	20.00	400.00
14	MRD	57.14	62.86	5.72	32.72
15	MRM	62.86	68.57	5.71	32.60
16	MA	51.43	71.43	20.00	400.00
17	MAR	62.86	65.71	2.85	8.12
18	MAL	62.86	77.14	14.28	203.92
19	MAF	51.43	77.14	25.71	661.00
20	RR	48.57	57.14	8.57	73.44
21	N	57.14	77.14	20.00	400.00
22	A	57.14	62.86	5.72	32.72
23	SK	42.86	57.14	14.28	203.92
24	VN	48.57	57.14	8.57	73.44
		Total		220.00	3877.14

Based on the table above, the pre-test highest score 77.14, while the lowest score was 42.86.

Next, using Arikunto's (2013) formula, the researcher calculated the experimental group's sum of square deviation:

$$\Sigma y^2 = \Sigma y^2 - \frac{(\Sigma y)^2}{N}$$

$$\Sigma y^2 = 12742.16 - \frac{(540.00)^2}{27}$$

$$\Sigma y^2 = 12742.16 - \frac{(291600)^2}{27}$$

$$\Sigma y^2 = 12742.16 - 10800$$

$$\Sigma y^2 = 1942.16$$

Based on the computation above the researcher obtains the experimental group's sum-squared deviation, 1942.16.

$$\Sigma y^2 = \Sigma y^2 - \frac{(\Sigma y)^2}{N}$$

$$\Sigma y^2 = 3877.14 - \frac{(220.00)^2}{24}$$

$$\Sigma y^2 = 3877.14 - \frac{(48400)^2}{24}$$

$$\Sigma y^2 = 3877.14 - 2016.67$$

$$\Sigma y^2 = 1860.47$$

Based on the computation above the researcher obtains the control group's sum-squared deviation, which is 1860.47.

Vol. 10, No. 3, 2024
ISSN 2443-3667(print) 2715-4564 (online)

T-Counted

$$t = \frac{Mx - My}{\sqrt{\left(\frac{\Sigma x^2 + \Sigma y^2}{Nx + Ny - 2}\right)\left(\frac{1}{Nx}\right) + \left(\frac{1}{Ny}\right)}}$$

$$t = \frac{20.00 - 9.17}{\sqrt{\left(\frac{1942.16 + 1860.47}{27 + 24 - 2}\right)\left(\frac{1}{27}\right) + \left(\frac{1}{24}\right)}}$$

$$t = \frac{10.83}{\sqrt{\left(\frac{3802.63}{49}\right)\left(\frac{51}{648}\right)}}$$

$$t = \frac{10.83}{\sqrt{(77604)\ (0.07)}}$$

$$t = \frac{10.83}{\sqrt{5.43}}$$

$$t = \frac{10.83}{2.33}$$

$$t = 4.65$$

The researcher determined the value of t-counted, which is 4.65, by looking at the computation above.

Testing Hypothesis

Using a 49 degree of freedom (df) and a 0.05 level of significance, the test rule is that the t-counted value is higher than the t-table. The researcher used the interpolation formula to ascertain the acceptance or rejection of the hypothesis:

$$I = t_{min} - (t_{min} - t_{max}) \frac{d f_{1-d f_{min}}}{df_{\max - d f_{min}}}$$

Where:
I = Interpolation
t_{min} = critical value of minimum degree of freedom
t_{max} = critical value of maximum degree of freedom
d f_1= degree of freedom
d f_{min} = minimum degree of freedom
d f_{max} = Maximum degree of freedom

Degree of freedom (df) = Nx + Ny – 2
= 27 + 24 - 2
= 49

Level of significant = 0.05
t-min = 1.684
t-max = 1.671

$$I = t_{min} - (t_{min} - t_{max}) \frac{d f_{1-d f_{min}}}{df_{\max - d f_{min}}}$$

$$I = 1.684 - (1.684 - 1.671) \frac{49-40}{60-40}$$

$$I = 1.684 - (0.013) \frac{9}{20}$$

$$I = 1.684 - 0.00585$$

$$I = 1.678$$

Finally, the researcher discover that that the t-counted (4.65) was higher than t table (1.678) using the 0.05 level of significance with the degree of freedom (df = 49). This shows that the hypothesis in this research is accepted. In short, jigsaw technique can improve students reading comprehension at SMP Negeri 12 Palu.

Discussion

Students reading comprehension in experimental class can improve significantly because by using jigsaw technique. Jigsaw technique can allow students to develop creativity, abilities, and power problem solving according to their own purpose. According to Wiyono Cahyaningtyas Tannaya, Rr hasti Robiasih (2019) In this technique they can discuss and sharing knowledge also can provide engaging group activities to assist students in developing their reading skills. The successful use of the jigsaw technique also supported by Ayu Citra, Wida Rianti, Putri Asilestari (2021) who found that with the help of the jigsaw technique, the students were engaged in cheerful and enjoyable reading, and their comprehension of the material was improved via class discussions.

Moreover, the researcher could saw the students found the detail information in the text more easily, also the students enthusiastic in class because they can share their opinion each other. Additionally, the researcher saw the vocabulary of the students improved because from group discussion they could find vocabulary so as to create new vocabulary. However, vocabulary is crucial in understanding text as stated by Alshehri Ahmad (2023) vocabulary is important predictor for comprehending written texts. Most of the student's score was increase but not all of them can attain the minimum standard score (KKM) nonetheless, this technique can help students to find new information, make them enthusiastic during the learning process, and improve the student's vocabulary. So, the teacher can try to apply jigsaw technique in order to help student's to comprehend English text especially descriptive text.

Conclusion

Based on the research findings, the researcher concludes that using jigsaw technique can improve the reading comprehension of the eighth grade students of SMP Negeri 12 Palu. The outcome proves that the mean score of the pre-test of the students is 57.78 and the post-test is 77.78. Then, the t-counted value (4.65) was higher than the t-table value (1.678). It was demonstrated that the hypothesis is accepted. Particularly, the jigsaw technique can improve reading comprehension of the eighth-grade students of SMP Negeri 12 Palu.

Acknowledgment

The researcher would like to thank all of the Junior High School 12 Palu students for their enthusiastic involvement. With special thanks to the English teacher for all of her help and advice. The researcher expresses gratitude to the supervisor, co-supervisor, and reviewer for their invaluable support and input, which helped to refine this research. Thank you to everyone who encouraged me, your combined efforts were very important in getting this research finished.

References

Ahmada, A. (2019). The Effectiveness of Jigsaw Learning Model in Teaching Reading Comprehension on Narrative Text. *Jurnal Darussalam: Jurnal Pendidikan, Komunikasi Dan Pemikiran Hukum Islam*, *10*(2), 258. https://doi.org/10.30739/darussalam.v10i2.373

Alshehri, A. (2023). The Impact of Vocabulary Size on the Receptive Skills of Saudi EFL Learners. *World Journal of English Language*, *10*(2), 108–115. https://doi.org/10.5430/WJEL.V13N7P108

Arato, F. and Varga, A. (2015). *A Handbook for learning together–an introduction to co-*

operative learning. University of Pecs, Faculty of Humanities, Institute of Education Sciences.

Arikunto, S. (2013). *Prosedur Penelitian Suatu Pendekatan Praktik.* Rineka Cipta.

Ayu, C., Rianti, W., & Asilestari, P. (2021). Using jigsaw technique for improving reading skills. *Journal of English Language and Education*, *6*(1), 141–147. https://jele.or.id/index.php/jele/index

Bamford, J., & Day, R. R. (1998). Teaching Reading. *Annual Review of Applied Linguistics*, *18*, 124–141. https://doi.org/10.1017/s0267190500003512

Kusmana, S. (2015). Pengembangan budaya literasi dalam pembelajaran bahasa Indonesia. *Seminar Nasional Pendidikan Bahasa*, *1*(1), 1–11. http://conference.unsri.ac.id/index.php/SNBI/article/view/498

Saini, F., Halimah, N., Saud, I. W., & Paputungan, R. A. N. (2020). Using the Jigsaw Technique To Improve Student Reading Comprehension. *British (Jurnal Bahasa Dan Sastra Inggris)*, *9*(2), 77–94.

Wiyono, T. C., & Robiasih, H. (2019). the Use of Jigsaw Technique in Improving Students' Reading Skill on Narrative Text. *JELLT (Journal of English Language and Language Teaching)*, *3*(1), 97. https://doi.org/10.36597/jellt.v3i1.4488

Yinger, R. J. (1987). Learning the Language of Practice. *Curriculum Inquiry*, *17*(3), 293–318. https://doi.org/10.1080/03626784.1987.11075294